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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* R. MARK HALLIGAN and  
RICHARD F. WEYAND

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Appeal 2009-010921  
Application 10/701,889  
Technology Center 3600

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Decided: December 10, 2009

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Before TERRY J. OWENS, MURRIEL E. CRAWFORD, and  
LINDA E. HORNER, *Administrative Patent Judges*.

HORNER, *Administrative Patent Judge*

DECISION ON APPEAL

## STATEMENT OF THE CASE

R. Mark Halligan and Richard F. Weyand (Appellants) came before the Board in a previous appeal from a final rejection in the present application (Appeal 2007-2973) seeking our review under 35 U.S.C. § 134 (2002) of the Examiner's decision rejecting claims 1-52. In a Decision dated December 13, 2007, we reversed the Examiner's rejection of claims 1-52 and remanded the application to the Examiner for further consideration of a rejection under § 103. In response to the remand, the Examiner issued a Supplemental Examiner's Answer, in which he entered new grounds of rejection of claims 1-52 under § 103. Appellants maintained the appeal by filing a Reply Brief in which they now seek our review of the Examiner's new grounds of rejection. We have jurisdiction under 35 U.S.C. § 6(b) (2002).

## SUMMARY OF DECISION

We AFFIRM.

## THE INVENTION

Appellants' claimed invention is directed to a method and apparatus for discovering trade secrets of an organization. Spec. 11:9-10. Claim 1, reproduced below, is representative of the subject matter on appeal.

1. A method of discovering trade secrets of an organization, such method comprising the steps of:

collecting sets of descriptive information about potential trade secrets through an input device of a computer from a plurality of persons of the organization into a database of the computer;

the computer analyzing the collected sets descriptive information about potential trade secrets using logical and mathematical formulae to identify and eliminate any redundancy among the sets of descriptive information about potential trade secrets to define a collection of descriptive information about potential trade secrets of the organization; and

the computer generating a report containing the non-redundant descriptive information about potential trade secrets of the organization.

### THE EVIDENCE

The Examiner relies upon the following evidence:

Jacobson	US 6,167,397	Dec. 26, 2000
Rotter	US 2003/0046280 A1	Mar. 6, 2003
Katz	US 2003/0158745 A1	Aug. 21, 2003

### THE REJECTIONS

Appellants seek review of the following rejections:

1. The Examiner rejected claims 1 and 27 under 35 U.S.C. § 103(a) as being unpatentable over Katz and Rotter.
2. The Examiner rejected claims 2-26 and 28-52 under 35 U.S.C. § 103(a) as being unpatentable over Katz, Rotter, and Jacobson.

### ISSUE

Appellants argue claims 1 and 27 as a group. Reply Br. 2-15.<sup>1</sup> We select claim 1 as a representative claim, and claim 27 stands or falls with claim 1. 37 C.F.R. § 41.37(c)(1)(vii) (2009). Appellants further argue that

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<sup>1</sup> We use “Reply Br.” to refer to Appellants’ Reply Brief filed May 19, 2008.

if independent claims 1 and 27 are not obvious under Katz and Rotter, then dependent claims 2-26 and 28-52 are not obvious under Katz, Rotter, and Jacobsen, because Jacobsen does not provide any teaching on or relevant to the elimination of redundancy in a database. Reply Br. 15. As such, our decision turns on the propriety of the rejection of claim 1.

The Examiner found Katz discloses the method of claim 1, except that Katz does not disclose identifying and eliminating any redundancy among the sets of descriptive information about potential trade secrets to define a collection of descriptive information about potential trade secrets of the organization. Ans. 4.<sup>2</sup> The Examiner found that Rotter discloses identifying potential duplicate records grouped into record sets for merging into a composite surviving record based on predetermined, user-definable rules. Ans. 4-5. The Examiner concluded that it would have been obvious to modify Katz to identify and eliminate any redundancy among the sets of descriptive information, as disclosed by Rotter, because the claimed method is merely a combination of old elements, each performing the same function as it did separately, with predictable results. Ans. 5.

Appellants contend that Rotter's method of eliminating redundancy is different from the claimed method and is inapplicable to trade secrets. Reply Br. 2-3.

The issue presented by this appeal is:

Have Appellants met their burden to show that the Examiner erred in concluding the method of claim 1 would have been obvious to one having

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<sup>2</sup> We use "Ans." to refer to the Examiner's Supplemental Answer dated April 10, 2008.

ordinary skill in the art in view of the combined teachings of Katz and Rotter?

### FINDINGS OF FACT

We find that the following enumerated findings are supported by at least a preponderance of the evidence. *Ethicon, Inc. v. Quigg*, 849 F.2d 1422, 1427 (Fed. Cir. 1988) (explaining the general evidentiary standard for proceedings before the Office).

#### *Appellants' Specification*

1. Appellants' Specification describes that the invention relates to methods and apparatus for the discovery of trade secrets, including the collection, compilation, correlation, integration, categorization, and reporting of data about trade secrets. Spec. 1 (Background of the Invention, first para.).
2. Appellants' Specification describes that a correlation processor identifies and correlates redundant potential trade secrets using key fields of the potential trade secret entries, such as subject area, format, and product or service. Spec. 21 (last para.).
3. Appellants' Specification describes that the correlation process begins by comparing the values entered for key fields of the entry for a first potential trade secret to the same fields of the entries for all other potential trade secrets in the system, and all of the matching potential trade secrets (i.e., those potential trade secrets having key fields matching the first potential trade secret entry) are marked as belonging to a single potential trade secret group. Spec. 22 (first para.).

4. Appellants' Specification describes that this comparison process is repeated until all of the potential trade secret entries have been marked as belonging to potential trade secret groups. Spec. 22 (third para.).
5. Appellants' Specification describes that the correlation process continues by replacing synonymous keywords with a master keyword, Spec. 22 (fifth para.), and then subdividing each potential trade secret group into more specific sub-groups based on the analysis of the keywords in the keyword fields, such that each subdivision will contain all of the potential trade secrets which have a certain number of keywords in common. Spec. 22-23 (carryover para. to end of page 23). Each subdivision constitutes one non-redundant potential trade secret. Spec. 24 (first para.).

*Katz*

6. Katz discloses a system and method for managing intellectual capital which allows a company to internally keep track of intellectual capital and to access information about intellectual capital available for licensing or purchase. Katz 1, para. 0001.
7. Katz discloses that the intellectual capital includes trade secret information. Katz 2, para. 0034.
8. Katz discloses a system including an input device for the user to enter data about new innovations. Katz 2, paras. 0033, 0039; *id.* at 3, para. 0040.
9. Since multiple users within an organization can enter data about new innovations, it is possible within the system described in Katz

to have more than one record for an innovation and thus have duplicative or redundant records.

10. Katz does not teach identifying and eliminating any redundancy among sets of descriptive information about potential intellectual capital.

*Rotter*

11. Rotter discloses a process for identifying and consolidating multiple records containing duplicative and redundant material, i.e., records containing one or more substantially equivalent information items. Rotter 1, para. 0013; *id.* at 6, para. 0040.
12. Rotter's process uses a sophisticated matching algorithm (SMA) that searches for information elements that are common to both a record associated with an identified entity, i.e., a company, an organization, a group of people, a manufactured item, a record, service or resource, and other records held by record repositories. Rotter 2, paras. 0016, 0017.
13. In particular, Rotter's SMA parses the first and second records and uses probabilistic matching logic to identify presence in the records of multiple predetermined record fields, and uses these multiple fields to perform a search and declare a match. Rotter 3, para. 0023.
14. Rotter's SMA assigns a weighting to potential duplicate records that is indicative both of the degree to which information is common to potential duplicate records and of the probability that the records are indeed duplicate records. Rotter 2, para. 0017; *id.* at 3, para. 0023 ("[t]he matching function also assigns weights that



indicate the probability of a match and employs frequency analysis to assign a higher weight to less common values.”).

15. Rotter’s process then groups the identified potential duplicate records into record sets for merging and other processing. Rotter 2, para. 0017.
16. Rotter’s process automatically designates one record in the record set as the surviving record and transfers selected information elements from the non-surviving records to the surviving composite record based on predetermined rules. Rotter 2, para. 0018; *id.* at 3, paras. 0021, 0024, 0025. The non-surviving records are retired upon completion of the merger. Rotter 5, para. 0033.
17. Rotter discloses that the process can be performed automatically without any human intervention. Rotter 4, paras. 0021, 0024, 0026; *id.* at 5, para. 0036.

## PRINCIPLES OF LAW

Section 103 forbids issuance of a patent when ‘the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.’

*KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, (3) the level of skill in the art, and (4) where in evidence, so-called secondary considerations.

*Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966). *See also KSR*, 550 U.S. at 407 (“While the sequence of these questions might be reordered in

any particular case, the [*Graham*] factors continue to define the inquiry that controls.”)

In *KSR*, the Supreme Court emphasized “the need for caution in granting a patent based on the combination of elements found in the prior art,” *KSR*, 550 U.S. at 415, and discussed circumstances in which a patent might be determined to be obvious. In particular, the Supreme Court emphasized that “the principles laid down in *Graham* reaffirmed the ‘functional approach’ of *Hotchkiss*, 11 How. 248.” *KSR*, 550 U.S. at 415 (citing *Graham*, 383 U.S. at 12), and reaffirmed principles based on its precedent that “[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *KSR*, 550 U.S. at 416. The Court explained:

When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability. For the same reason, *if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.*

*KSR*, 550 U.S. at 417 (emphasis added). The operative question in this “functional approach” is thus “whether the improvement is more than the predictable use of prior art elements according to their established functions.” *KSR*, 550 U.S. at 417

## ANALYSIS

Appellants present seven reasons why the method of claim 1 is not obvious in view of Katz and Rotter. Reply Br. 2-3. For the reasons set forth

*infra*, we do not find any of these seven reasons persuasive of error in the Examiner's rejection of claim 1.

First, Appellants argue that “[n]othing close to Applicant’s claimed method and apparatus of eliminating redundancy is disclosed by Rotter” because Rotter does not describe its sophisticated matching algorithm in detail, and thus it does not disclose a method and apparatus of identifying and eliminating redundancy similar to the method disclosed in Appellants’ Specification (bottom of page 21 to the middle of page 26). Reply Br. 2-4. Appellants state “Rotter’s invention may render obvious that a means of eliminating redundancy without dependence on a unique identifier is useful, but it does not render obvious Applicant’s claimed method and apparatus of eliminating redundancy in a trade secret database.” Reply Br. 4.

Throughout this argument Appellants refer to the “claimed method and apparatus of eliminating redundancy,” but Appellants fail to point to specific language in claim 1 that distinguishes Rotter’s disclosed method from the claimed method. Claim 1 recites “the computer analyzing the collected sets [of] descriptive information about potential trade secrets using logical and mathematical formulae to identify and eliminate any redundancy among the sets of descriptive information about potential trade secrets to define a collection of descriptive information about potential trade secrets of the organization...”.

Appellants’ Specification describes that a correlation processor identifies and correlates redundant potential trade secrets by comparing key fields in the entries and grouping those entries having matching key fields (Facts 1-4). These groups are then subdivided into sub-groups based on

entries having a certain number of keywords in common, and each subgroup constitutes one non-redundant potential trade secret (Fact 5).

While Rotter does not explicitly state that its method of eliminating duplicative and redundant information can be used for records containing information about potential trade secrets, the Examiner relies on Katz for the disclosure of a collection of sets of descriptive information about potential trade secrets, and determined that it would have been obvious to apply Rotter's method to eliminate duplicative information and redundant records in Katz's sets of information, to result in the claimed method. Ans. 4; Facts 6, 7.

Rotter discloses a process for identifying and consolidating records containing duplicative and redundant material using an algorithm that parses records and uses logic to identify records having multiple pre-determined record fields in common. Facts 11-13. Rotter assigns a weighting (mathematical formulae) to potential duplicate records to indicate the degree of matching and then groups the identified potential duplicate records into record sets for merging. Facts 14, 15. Rotter's process then consolidates the information elements from the records in the record set into one designed surviving record and retires all of the other records in the record set upon completion of the information merger. Fact 16.

Thus, Appellants' and Rotter's methods analyze information about an entity (trade secret) using logic and mathematical formulae to identify and eliminate any redundancy by looking for pre-determined information elements (key words) in common among multiple records (entries). We fail to see why Rotter's method would be inapplicable to eliminate redundant trade secret information such as is found in the data entries of Katz. Katz

discloses a system that allows multiple users to enter data about new innovations, including information about potential trade secrets. Facts 7, 8. Since multiple users within an organization can enter data about new innovations, it is possible within the system described in Katz to have more than one record for an innovation and thus have duplicative or redundant records. Fact 9. Rotter, as applied to Katz, teaches to search these records of potential trade secrets for information elements that are common to more than one record. Facts 11-13. Rotter, as applied to Katz, teaches to use weighting to determine the degree of matching of the records to determinatively identify duplicate records, i.e., records relating to the same potential trade secret. Fact 14. Rotter, as applied to Katz, would then group all of the identified, duplicate, potential trade secret records into a record set and merge the information elements in the records of the record set into a single, surviving record. Facts 15, 16. The remaining surviving record defines a collection of descriptive information about the identified potential trade secret of the organization. As such, the use of the method of Rotter to eliminate redundancies in the trade secret information contained in the data entries of the system of Katz is nothing more than the application of a known technique to improve a similar database containing records of information in the same way, and Appellants have not presented any persuasive argument or evidence that such application would be beyond the skill of one having ordinary skill in the art. *KSR*, 550 U.S. at 417 (“[I]f a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.”). In other words, the claimed method is directed to

a predictable use of Rotter's process for eliminating redundancies in the trade secret data of Katz according to its established function.

Second, Appellants argue that "the combination of Katz' method of collecting data about innovations combined with Rotter's method of eliminating redundancy in existing databases do not render obvious Applicant's method and apparatus of first collecting data that has been structured in a specific way and then eliminating redundancy through the use of an algorithm that depends on that data structure." Reply Br. 5.

Appellants fail to tie this argument to the language of claim 1. We find nothing in claim 1 that requires collecting data that has been structured in a specific way. Rather, claim 1 recites "collecting sets of descriptive information about potential trade secrets through an input device of a computer from a plurality of persons of the organization into a database of the computer." This step does not call for any particular structuring of the data in the database. Likewise, the claim element directed to analyzing the collected sets of descriptive information to identify and eliminate any redundancy does not call for using or relying on any particular structuring of the information to perform the recited analysis.

Third, Appellants argue:

The elimination of redundancy in a database whose records relate to potential trade secret information – unstructured, overlapping, divisible – is a far different problem than the elimination of redundancy in a database whose records each relate to a specific entity – separate and distinct, particular and discrete. Rotter teaches the latter, but Rotter's method has no application to the former.

Reply Br. 7. We find that Rotter's method is applicable to potential trade secret information, in that we see no difference between the method of

determining matching information and identifying duplicate records used in Rotter's method and the method disclosed in Appellants' Specification. As set forth in the facts and analysis *supra*, Appellants' and Rotter's methods analyze information about an entity (trade secret) using logic and mathematical formulae to identify and eliminate any redundancy by looking for pre-determined information elements (key words) in common among multiple records (entries) and then merge the information elements to define a collection of descriptive information about the entity (trade secret).

Fourth, Appellants argue that Rotter's method uses a probabilistic approach to determine the likelihood that records are matching and duplicative, and that "[b]ecause Katz and Rotter do not either separately or together disclose or teach any deterministic method or apparatus for the elimination of redundancy similar to Applicant's method and apparatus, Applicant's method and apparatus of claims 1 and 27 is not rendered obvious under Katz in view of Rotter." Reply Br. 8-9. Again, we fail to see how this argument is based on the language of claim 1. Claim 1, calls for the computer to analyze sets of descriptive information about potential trade secrets "using logical and mathematical formulae to identify and eliminate any redundancy." Claim 1 does not limit the claimed method to a deterministic, rather than a probabilistic, method.

Further, Appellants focus their arguments on the fact that in the method of Rotter, a human can get involved at certain decision points to make a final determination of whether a record is duplicative of another identified record. Rotter also discloses, however, that the entire process can be performed automatically, in a deterministic manner, without any human intervention (Fact 17).

Fifth, Appellants argue that “[b]ecause Katz and Rotter do not either separately or together disclose or teach any method or apparatus for the elimination of redundancy (without using weighting of data entries within the database records being matched) similar to Applicant’s method and apparatus, Applicant’s method and apparatus of claims 1 and 27 is not rendered obvious under Katz in view of Rotter.” Reply Br. 9. Again, Appellants’ argument is not tied to the language of claim 1. Claim 1 uses open-ended language, “comprising the steps of:” as a preamble to the recited method steps, and claim 1 does not include any negative limitation precluding the use of weighting. As such, Appellants’ argument fails to convince us of error in the Examiner’s rejection.

Further, we see no unobvious difference between Rotter’s use of weighting to assign a value to the degree of matching and Appellants’ disclosure of subdividing the groups based on a pre-determined number of matching keywords, in that both methods consider how many information entries are duplicative, i.e., the degree of matching, to determine or identify duplicate records. Facts 6, 16.

Sixth, Appellants argue that “Applicant’s invention has the intention of imposing definition and structure on an amorphous and unstructured collection of information collectively known as trade secrets” and

[b]ecause Katz and Rotter do not either separately or together disclose or teach any method or apparatus to provide definition and structure to the underlying referents of the database records similar to Applicant’s method and apparatus of claims 1 and 27, Applicant’s method and apparatus is not rendered obvious under Katz in view of Rotter.

Reply Br. 9-10. Again, Appellants’ argument is not tied to the language of claim 1. We see nothing in the language of claim 1 that requires the claimed



method to include a step of providing definition and structure to underlying referents of database records. Further, Rotter discloses identifying matching information elements from multiple records and then identifying duplicate records, *i.e.*, multiple records for the same entity, based on the extent of the matching information elements. Facts 11-16. This same method could be used to identify matching information elements from multiple potential trade secret entries and then identifying a non-redundant potential trade secret based on the extent of the matching information elements, thereby providing definition and structure to the potential trade secret.

Seventh, Appellants argue that “the prior art has failed to recognize the problem represented by an amorphous and unstructured collection of information that together represents one or more trade secrets” and that “[t]he invention of the Rotter patent is not useful in application to trade secrets, and cannot be used to define trade secrets or otherwise provide structure to the amorphous cloud of information that constitutes the trade secret information of an organization.” As we stated *supra*, claim 1 is not limited to providing structure to trade secret information. Rather, claim 1, calls for identifying and eliminating redundancy among sets of descriptive information about potential trade secrets to define a collection of descriptive information about potential trade secrets of the organization. As such, we have not been persuaded of error in the Examiner’s rejection of claim 1. Claim 27 falls with claim 1. Appellants’ arguments likewise are unpersuasive of error in the Examiner’s rejection of dependent claims 2-26 and 28-52 for the same reasons provided *supra* in the analysis of claim 1.

### CONCLUSION

Appellants have failed to meet their burden to show that the Examiner erred in concluding the method of claim 1 would have been obvious to one having ordinary skill in the art in view of the combined teachings of Katz and Rotter.

### DECISION

The decision of the Examiner to reject claims 1-52 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv) (2007).

AFFIRMED

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